





# **HDR STRATEGIC CONSULTING SERVICES – P3'S FOR WATERWAY INFRASTRUCTURE**

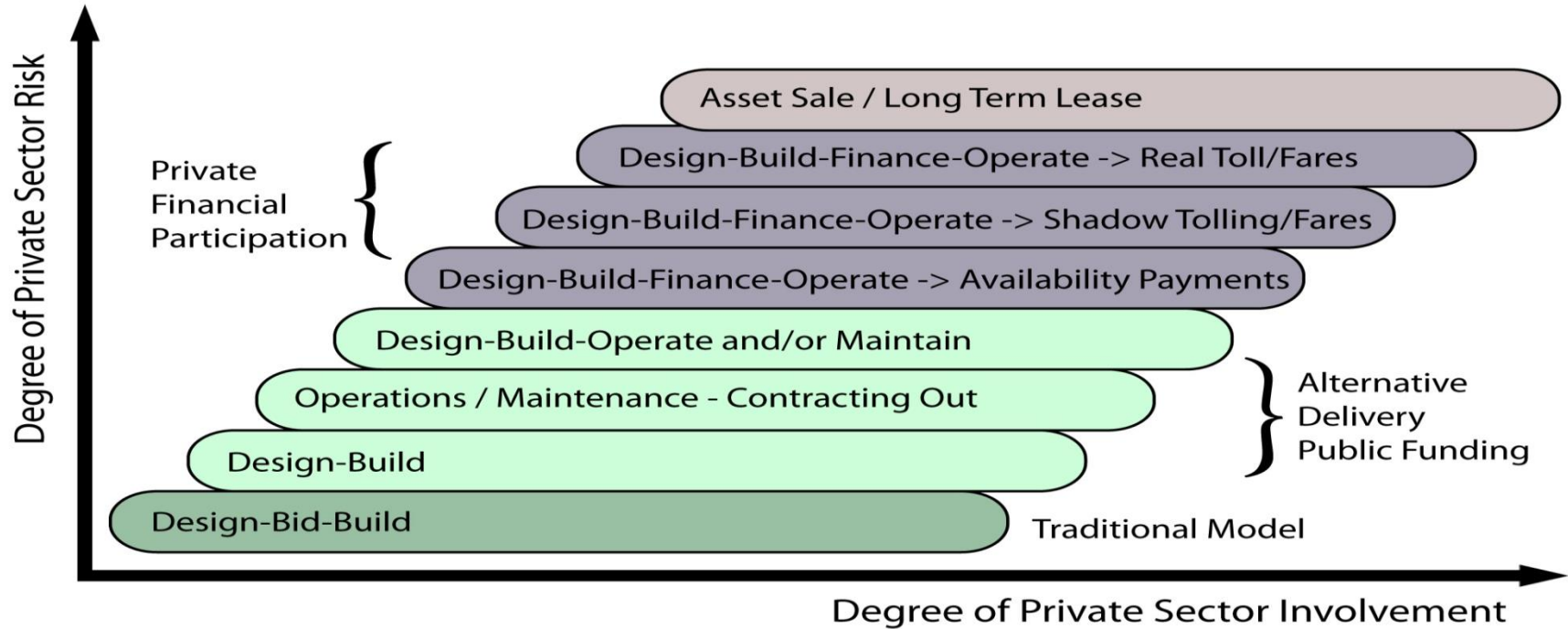
Robert Beduhn, PE, ENV SP

# DELIVERY OPTIONS: PUBLIC WORKS PROJECTS

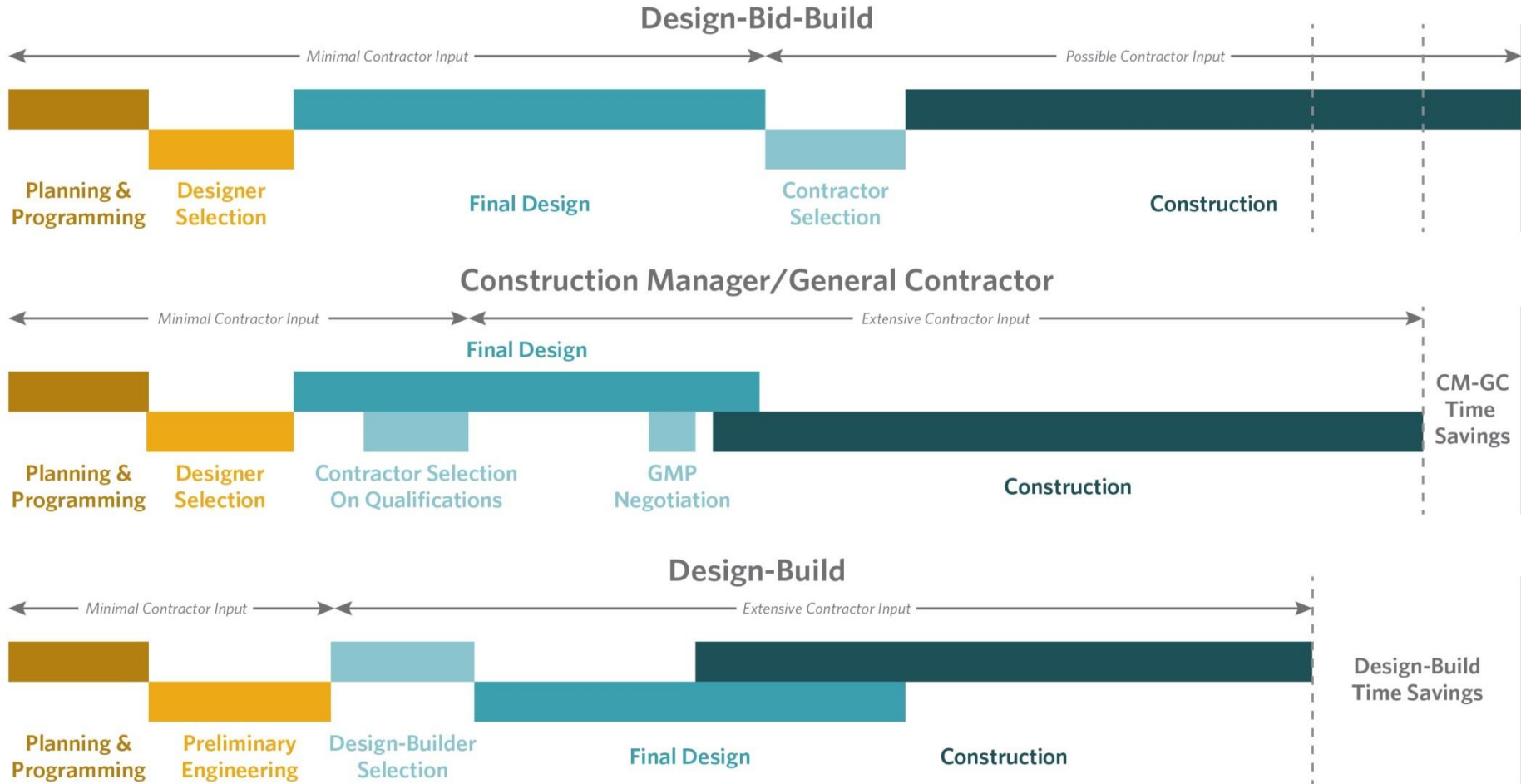
- Design-Bid-Build (DBB)
- Construction Manager / General Contractor (CMGC) (Similar to CM at Risk)
- Design-Build (DB)
- Design-Build-Operate-Maintain (DBOM)
- Design--Build-Finance-Operate-Maintain (DBFOM)
- Build-Operate-Transfer (BOT)



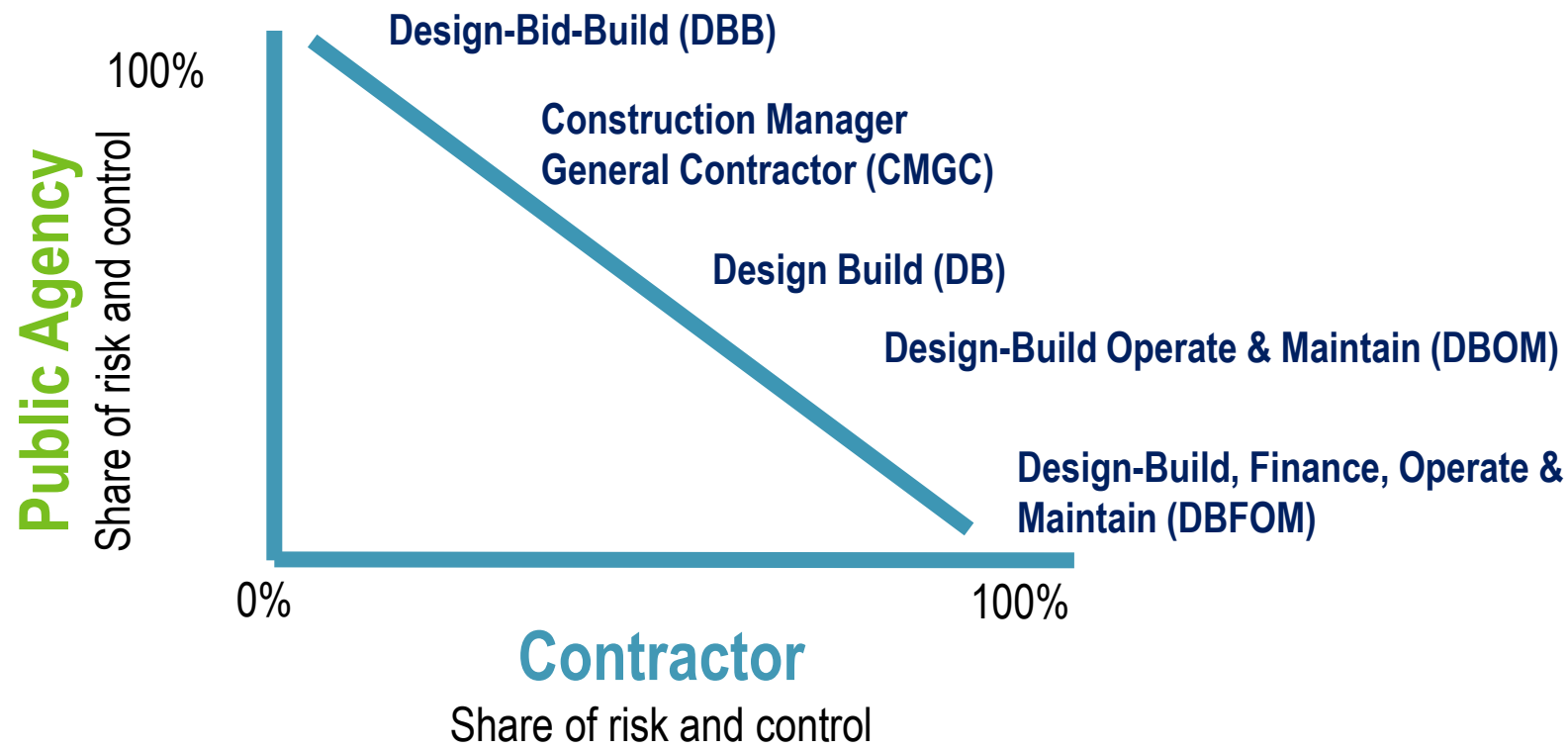
# RELATIONSHIP BETWEEN PRIVATE SECTOR INVOLVEMENT AND RISK



# ACCELERATED PROJECT DELIVERY SCHEDULE COMPARISON



# COMPARISON OF DELIVERY METHODS



*Sharing of control and risk varies by delivery type*



# **ASCE COASTS, OCEAN, PORTS AND RIVERS INSTITUTE – ALTERNATIVE FINANCE AND P3 SUBCOMMITTEE**

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# WRRDA 2014 SECTION 5014

## SEC. 5014. WATER INFRASTRUCTURE PUBLIC-PRIVATE PARTNERSHIP PILOT PROGRAM.

(a) IN GENERAL.—The Secretary shall establish a pilot program to evaluate the cost effectiveness and project delivery efficiency of allowing non-Federal pilot applicants to carry out authorized water resources development projects for coastal harbor improvement, channel improvement, inland navigation, flood damage reduction, aquatic ecosystem restoration, and hurricane and storm damage reduction.

(b) PURPOSES.—The purposes of the pilot program established under subsection (a) are—

- (1) to identify cost-saving project delivery alternatives that reduce the backlog of authorized Corps of Engineers projects; and
- (2) to evaluate the technical, financial, and organizational benefits of allowing a non-Federal pilot applicant to carry out and manage the design or construction (or both) of 1 or more of such projects.

# WHITE HOUSE 2018 INFRASTRUCTURE INITIATIVE

## Key Principles

As the Administration develops policy and regulatory changes, and seeks statutory proposals working with Congress, we will focus on proposals that fall under the following key principles:

1. *Make Targeted Federal Investments.*
2. *Encourage Self-Help..*
3. *Align Infrastructure Investment with Entities Best Suited to Provide Sustained and Efficient Investment.*
4. *Leverage the Private Sector.*

# **COASTS, OCEANS, PORTS, AND RIVERS INSTITUTE (COPRI)**

Created in 2000, COPRI is a semi-autonomous institute of the American Society of Civil Engineers (ASCE), the country's oldest national engineering society.

## **Vision**

COPRI serves as a multidisciplinary and international leader in improving knowledge, education, development and the practice of civil engineering and other disciplines in the sustainable management of coastal, ocean, port, waterways, riverine and wetlands resources for the benefit of society

## **Mission**

COPRI serves its membership and society by uniting the disciplines working to sustainably develop, protect and restore coasts, oceans, ports, waterways, rivers and wetlands; integrating the key stakeholders into decision making processes; advancing technological state of art and practice; and influencing public policy.

## **COPRI Alternative Finance For Waterways Infrastructure Subcommittee**

To evaluate Public Private Partnership (P3) authorization under the Water Resources Reform and Development Act of 2014 (WRRDA).

# COMMITTEE REPORT

COPRI's Task Committee on Alternative Financing of Waterways Infrastructure, completed a report on the challenges and opportunities for applying the P3 project delivery method to water resources infrastructure within the context of the U. S. Army Corps of Engineers civil works program.

## Alternative Financing and Delivery of Waterways Infrastructure

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Task Committee on Alternative Financing for Waterways Infrastructure

Edited by

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Jill Jamieson

Sponsored by

Technical Committee on Waterways of the  
Coasts, Oceans, Ports, and Rivers Institute of the  
American Society of Civil Engineers

# REPORT CONTENT

- Existing Authorities
- WRRDA 2014 Pilots
- Existing Revenues
- Payment Mechanisms
- Impediments
- Constraints
- Conclusions and Recommendations

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# EXISTING FEDERAL AUTHORITIES – CONTRIBUTED FUNDS

## Navigation Dredging

- The majority of contributed funds with the South Atlantic Division have been used to provide additional funding for dredging in low to moderate use harbors and waterways where federal funds may not have been adequate to meet stakeholder needs.
- The primary benefit provided by these dredging events were improved channel dimensions for commercial fishing, improved response for U.S. Coast Guard Search and Rescue Operations, and improved safety of recreational boaters.
- The Great Lakes and Ohio River Division has also processed several contributed funds request for navigation dredging.

## Fargo Moorhead Metro Locally- Led Public-Private Partnership (P3)

- The Cities of Fargo and Moorhead are establishing a P3 with a private sector to provide funds up-front to design, build, finance, operate and maintain the diversion channel portion of this flood risk management project, shortening construction from 16 years to 6.5 years.
- Benefits include flood protection for 230,000 people, reducing the federal share from \$850M to \$450M, reducing the number of contracts required from 28 to 11, transferring risk from the federal government to the non-federal sponsor and private contractor, and demonstrating the ability to use locally-led P3 for flood risk management projects.



# FEDERAL AUTHORITIES – CONTRIBUTED FUNDS

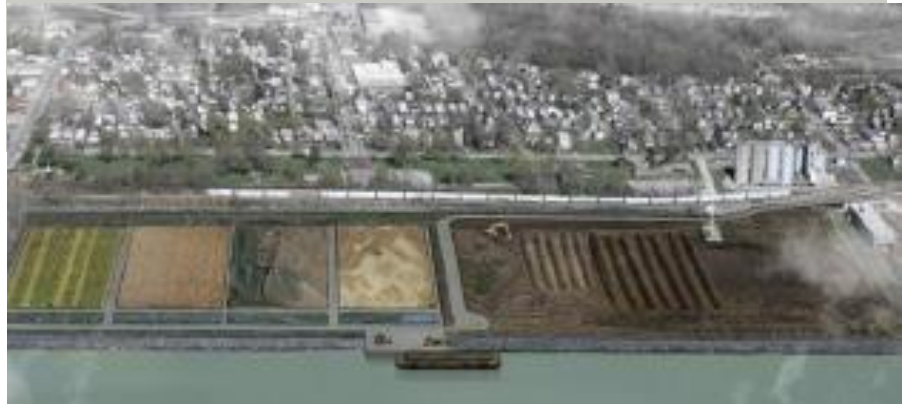
## Upper Allegheny River Locks

- Allegheny River Locks 6-9 play an important role in the local economy primarily due to recreational boating.
- Contributed funds are provided by the Allegheny River Corporation, a non-profit organization, to operate the locks during summer weekends.
- Without these funds, the locks would remain closed due to minimal commercial boat traffic in this area. USACE continues to address maintenance of these locks.



## Toldeo Riverside Facility

- Non-federal partners established a Great Lakes Dredged Material Center for Innovation. This facility researches safe and sustainable beneficial uses for dredged sediment from the Toledo Harbor where nearly 1M cubic yards of sediment is dredged annually.
- A Memorandum of Agreement was implemented last year so that the Corps could place dredged sediment at this facility. The Corps expects to follow a similar arrangement this year.



# FEDERAL USACE HYDROPOWER

## **Under Current Authorities:**

- Cannot accept private funds to perform work except associated with consumption (not production)
- ESPCs may not be used at federal hydro facilities
- Operating & Maintaining a federal hydro facility is an inherently governmental function & cannot be contracted out

## **Dept of Energy Power Marketing Administrators (PMAs):**

- Already have long-term financing plans with their power customers and the Corps that cover some major rehabilitation and maintenance costs
- Adding another layer of financing using a P3 tool may complicate existing strategies, increase customer rates, and reduce the control PMAs have over hydro facilities

## **Opportunities:**

Bonneville Power Administration direct funding arrangement model, granted by Section 2406 of the Energy Policy Act of 1992. Revenues are reinvested into major rehab and O&M. Ensures adequate annual funding, strategic planning and efficient life-cycle management

# FEDERAL ALTERNATIVE FINANCING OPPORTUNITIES

- Modify Inland Navigation Trust Fund to Ring Fence Revenues
- Modify Contracting Authority To Issue Multi-Year Construction Contracts Based Upon Revenue Forecasts
- Modify Contracting to Enter Into Long Term O&M Contracting
- Expand Value Capture Methods and Allow Ring Fencing of Alternative Revenue Sources
- OMB Scoring Does Not Recognized Accelerated Benefits and Scores Multi-Year Construction in Current Budget Year. Does Not Recognized Future Revenue Capture Through Ring Fenced Funds.



# WATERWAYS ALTERNATIVE FINANCE MODEL(S)

## Infrastructure Delivery Spectrum of Options



**Figure 1 – Infrastructure Delivery Spectrum of Options (source: Jill Jamieson)**



# PHASES OF A P3/ALTERNATIVE FINANCING EVOLUTION

- **Genesis:** Determine the project purpose, drivers, and specific need for a P3/Alternative Financing.
- **Feasibility Evaluation:** Evaluate the feasibility of a Public-Private Partnership, including funding, financing, design and construction, operations, and maintenance
- **Planning & Testing:** Assess the best way to accomplish a Public-Private Partnership for the situation. Beyond a 'paper plan' only, thoroughly test the plan relative to market demand, public and stakeholder feedback, economics, and potential 'fatal flaws' that could derail the project.
- **Procurement:** Determine the best approach and what is allowable under current statutes for choosing and contracting with the best-value private partner.
- **Implementation:** Establish the best methods for the full range of project delivery – financing, design, construction, operation, and maintenance.
- **Operations and Maintenance:** Evaluate if the project is running smoothly – if the private sector partner is properly fulfilling contracting obligations and whether negotiating changes to the contract are necessary.

# WHY DO ALTERNATIVE FINANCE FOR INLAND NAVIGATION IMPROVEMENTS?

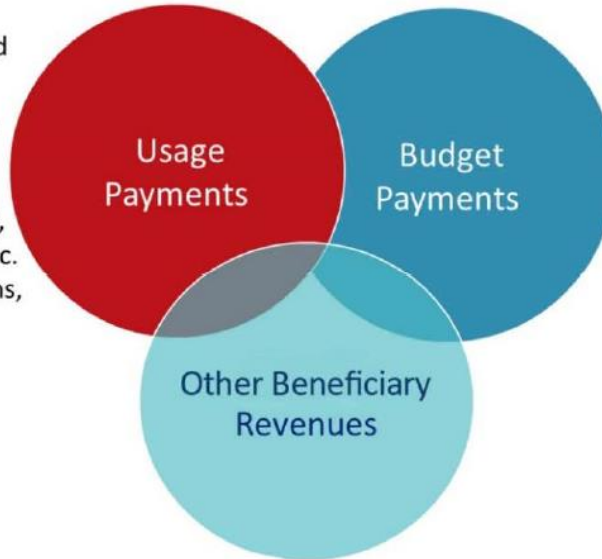
- Accelerating Infrastructure Delivery/Access to Additional Financing
  - Receive Benefits Sooner
- Monetization of Existing Assets
  - Unlock The Value In Existing Infrastructure
- Operational Efficiencies and Life-Cycle Savings
  - Establish Performance Based Contracts
- Risk Allocation and Mitigation
  - Allocation Of Certain Risks to Private Sector
- Fiscal Discipline



# POTENTIAL SOURCES OF REVENUE FOR WATERWAYS ALTERNATIVE FINANCING

## Primary P3 compensation models :

- Compensation derived from user/usage charges, such as tolls, tariffs or usage fees (i.e., toll roads)
- Focus on demand risk, affordability issues, etc.
- Examples: Concessions, BOT agreements.



- Compensation provided through performance-based budget payments
- Focus on credit rating, guarantees, performance-based indicators, etc.
- Example: Off-take agreements and availability payments.

Compensation derived from the commercial activities of other project beneficiaries

**Figure 4: Revenue Sources in P3 (source: Jill Jamieson)**

# PRIVATE SECTOR CONSIDERATIONS`

- Trust
  - Mutually Beneficial, Legal, Transparent
  - Competitive Procurement
- Clear Financial Transaction
  - Costs and Revenue Known and Quantified
- Risk Identification and Allocation
  - Economic
  - Political
  - Financial
  - Performance



# OPPORTUNITIES TO MOVE INLAND WATERWAYS FINANCING FORWARD

- Expand Revenue Generation to Other Beneficiaries
- Ring-Fencing of Existing and Future Revenues
- Contracting Authority
  - Anti-Deficiency Act – Can't contract for more money than in revolving fund account
  - Contract based upon Revenue Forecast
- Budget Scoring
  - Multi-year obligations scored in current budget year forces full appropriation in current budget
- Benefit Cost Ratio
  - National Economic Development Plan vs. Regional Economic Development
  - Alternative Finance Benefits (Acceleration, Finance, Lifecycle and Risk Transfer) Not Captured

# OTHER ACTIONS NEEDED TO MOVE ALTERNATIVE FINANCING FORWARD

- State and Local Enabling Legislation
  - Allow P3
  - Allow Alternative Delivery Construction Models
  - Provide Special Purpose Government Formation and Authorities
- Viable non-Federal Cost Share Partner
  - Enter into agreements
  - Revenue Authority
  - Serve as local project sponsor to Federal Entities

35 States have passed P3 finance legislation. Iowa is one of 15 States who have not



# ASCE SUBCOMMITTEE RECOMMENDATIONS

- Modify WRRDA 2014 to resolve constraints within current pilot project language (limits on currently authorized projects, no O&M)
- Modify Federal Budgeting, Benefit Cost Ratio and Scoring to recognized Alternative Finance Benefits and add Flexibility
- Modify Ring Fencing, Expand Revenue Generation and Allow Use of Alternative Finance Benefits
- Modify Contracting Authority for USACE to enter into long term contracts



# CURRENT WATER RESOURCE ALTERNATIVE FINANCE INITIATIVES

- Fargo Moorhead Flood Control
  - Mix of Federal, State and Local Financing
  - Regional Sales Tax back by Property Tax
- White River Irrigation District Grand Prairie P<sub>3</sub>
  - Environmental Restoration Credits
  - Water Sales and Connection Fees
- State of Louisiana Coastal Restoration
  - Wetland Banking and Credits
  - Potential for Pollutant Credits
  - Availability Payments from BP Settlement

